Leica mojoRTK
Release Notes

Version 2698
English

- when it has to be right

Leica Geosystems

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1 Introduction

General information

Leica Geosystems provides free of charge software updates for the Leica mojoRTK in order to provide customers with the best possible experience. This document describes the changes in the latest software release, how to use the new functionality and the various methods to upgrade the software.

The Release Notes for the mojoRTK system should be read in conjunction with the latest version of the mojoRTK user manual which is available at www.virtualwrench.com

Current Version

- Leica mojoRTK version 2698
- Released May 2012

Compatibility

This software is compatible with all Leica mojoRTK devices.

It is recommended that if using the Leica mojoRTK console with a Leica mojo3D that the software on this is also upgraded to the latest version in order to obtain the full benefits of the latest software.

2 New functionality

Overview

- Compass Calibration Timeout & Cancellation Option (2698)
- Diagnostic Menus Added to Troubleshooting Menu (2698)
- Reverse Engage for Generic AutoFarm SRK Kit (2698)
- Swap Left and Right Steering Control (2698)
- Addition of John Deere Analog WAS and Flow Meter to SRK Steerkit Names (2698)
- TDMA Mode option for European Base Stations (2698)
- Improvement to the positioning system resulting in improved steering performance (2656)
- No Network Data Plan unlock code required for external Raven modems (2656)
- New supported steer solutions (2648)
    - SteerDirect Hydraulic
    - SteerDirect SRK
- Default Unlock Options (2648)
- NMEA GSA 10Hz support added (2648)
- External Modem Support (2648)
- Configuring SteerDirect Hydraulic and SteerDirect SRK (2612)
- Expansion of steer kit diagnostics (2612)
- Changes for new Aeris CDMA provisioning requirements (2612)
- Error check for SteerDirect SRK firmware version and configuration compatibility (2612)
- New waylines via the mojo3D while guiding to old waylines (2612)

- mojoRTK SRK configuration made available while being used with a mojo3D (2612)
- Customisation of PVED configuration (2612)
- SRK wheel angle sensor error detection (2612)
- Steer kit configuration info has been moved from the Service Menu to the Dealer Menu under the Steer Kit section (2612)

2.1 Previously supported steer solutions

Benefits

There are no newly supported steer solutions included in this release. However some steerkit names have been added to provide an easier explanation of the steerkit. These are listed below under New Supported Steer Solutions. These solutions open up significant opportunities for mojoRTK customers to steer a variety of equipment.

The new SteerDirect Hydraulic **(patent pending)** system from Leica Geosystems delivers precision and simplicity to the hydraulic steering market. The SteerDirect Hydraulic design incorporates all the steer components on a single bracket saving costs, installation time while delivering unprecedented steering precision and performance.

Less cables, less hydraulic hoses, less complication, less hassle, more performance.

In the coming weeks and months, many more SteerDirect solutions will be added to the growing list.

Leica leading the way in precision steering!

Supported steer solutions

New supported steer solutions

The two following names have been added to the John Deere steerkits list under Leica Steer Ready Kits to make it easier for users to understand which steerkit to select depending on the type of Wheel Angle Sensor is used. These are

"**FWA Analog WAS**" and "**FWA Flow Meter**"

Previously released steer solutions

SteerDirect Hydraulic

John Deere 8x30 series

John Deere 9x20 4WD series

John Deere 6x20 Premium series

Case STX Large Frame & & New Holland TJ 375, 425, 450 & 500

John Deere 7x20/7x30 series

Case MX series

SteerDirect CAN

AGCO DTXXA, DTXXB

ACGO & Challenger B Series Gleaner combine harvesters

Challenger 6XXB, 6XXC, 9XXB, 7XXB, 7XXC, 8XXB, 8XXC, 9XXC

Massey Ferguson combine harvesters, 74XX, 84XX, 86XX

Fendt 818, 820, 936

SteerDirect SRK

John Deere 8X20 series

Case MX Trimble aftermarket fitted components

Case and New Holland combine harvesters

Case STX Large Frame 4WD & MX with factory fitted components

Case Puma 1XX, 2XX

New Holland 71X0, 72X0

SRK to suit Generic Autofarm kit

SRK to suit JD 7xxx series with a flow sensor

2.2 Compass Calibration Timeout & Cancellation Option

Benefits

The Compass Calibration will timeout correctly on the initial Compass Calibration if the User starts the Calibration but does not complete it. The User can also Skip this initial Compass Calibration if required and if the Calibration has accidently been started the User can cancel the calibration if required by pressing the esc key.

2.3 Diagnostic Menus Added to Troubleshooting Menu

Benefits

To provide the User with more diagnostics for the mojoRTK Console. The User now has access to the Roll/Pitch and Yaw values and also device temperatures which are accessible in the Troubleshooting menu. This will provide the User a better understanding of the current terrain compensations and when to perform updates to the terrain compensation.

2.4 Reverse Engage for Generic AutoFarm SRK Kit

Benefits

To allow users who use the Generic AutoFarm Steerkit to autosteer in reverse.

2.5 Swap Left and Right Steering Control

Benefits

This allows the service technician who is installing either a SteerDirect SRK or SteerDirect Hydraulic steerkit to swap the Left and Right Steering control in situations where after the install has been completed the Steering is pulsing/steering in the wrong direction. This can now be swapped over by going into Vehicle Settings then into Steer Kit Wizard and changing the Valves Reversed option from Normal to Reverse.

2.6 TDMA Mode Option for European Base Stations

Benefits

The European base stations (bases with 868 internal radios) now have a TDMA Mode option available. This TDMA Mode option can be used in situations to help reduce radio interference where radio interference is believed to be causing issues.

The TDMA Mode option can be found by going into the Settings Menu. The two options are Enabled and Disabled. When the TDMA Mode is enabled, the radio transmits the data in the second half of the GPS second compared to the first half when TDMA Mode is disabled.

This option is not available on other bases where the 900MHz internal radio is used due to the

900 radio already having built in functionality to reduce radio interference.

2.7 Default Unlock Options

Benefits

The options that are currently being provided free of charge with new systems are by default unlocked with this software update. The options include but are not limited to the following.

mojoRTK Consoles are standard with the following:

768317 MJC - Other base formats (CMR, CMR+, RTCM 3.0 & RTCM3.1)

768319 MJC - 16 mile (25km) range

789740 MJC - NMEA Terrain Compensated

774890 MJC - Glide Fallback

769843 MJC - Glide Only

789741 MJC - OEM API

769844 MJC - Wayline Storage & A-Heading

789872 MJC - NMEA XTE

mojoRTK Base Stations are standard with the following:

768308 GLONASS

768316 PRS - Enable fixed position input

2.8 NMEA GPGSA 10Hz Support

Benefits

To expand the compatibility of the mojoRTK system with other hardware the GPGSA NMEA message has been activated to operate at 10Hz which is configurable through the NMEA menu options.

2.9 External Modem Support (North America Only)

Benefits

To provide the customers with additional options on service providers for North American CDMA units the software has been expand to enable the support of several external modem options.

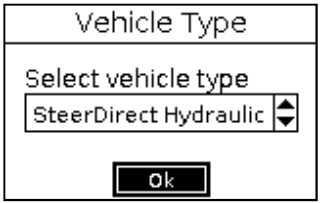
2.10 Configuring SteerDirect Hydraulic and SteerDirect SRK (Steer Ready Kit)

Never before has the configuration of a hydraulic steer solution been this easy.
After the SteerDirect Hydraulic is installed and the mojoRTK console is powered on for the first time, the console will initiate a configuration sequence designed to guide you through the initial setup of the console.

The mojoRTK User Manual explains the standard configuration settings for the mojoRTK console (refer to the section ‘Running the mojoRTK Console for the First Time’). Follow the on screen prompts to set up your specific equipment in less than 5 minutes.
To change selections manually follow the prompts below:

Go to Settings>Vehicle>Vehicle Wizard>

Select Vehicle Type as shown below:



Select Manufacturer>Model and follow the remaining easy to follow prompts to set up your Leica SteerDirect Hydraulic installation.

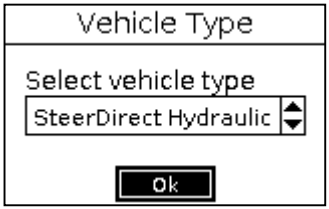
Configuring your SteerDirect SRK is a very similar process to configuring the SteerDirect Hydraulic with the exception of selecting the Vehicle Type which will be Leica Steer Ready Kit as shown below:

2.11 Expansion of steer kit diagnostics

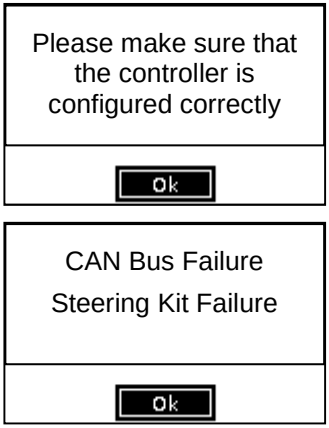
Steering Diagnostics

- This software version allows for an enhanced steering test for the SRK firmware and steer controller. By ensuring the version of firmware preloaded on the steer controller meets the Leica mojoRTK system compatibility requirements, the system performs a series of tests. Should the error message be returned during this process please contact your local Leica dealer to arrange for the appropriate firmware version to be loaded.

  The message below should be showing if the mojoRTK system diagnostics are successful.



The following error messages will be displayed if the steer controller is not configured correctly or other faults are detected:



More information is available by manufacturer and model at http://www.agguidance.com/SteerKits/ or contact your local Leica dealer for assistance.

2.12 Changes for new Aeris CDMA provisioning requirements – North America

Aeris Provisioning

- Leica has designed the current version of the mojoRTK software to be able to access a number of additional cellular signal providers, providing a wider variety of communications options for Virtual Wrench and network connectivity.

  In some instances this will be an automated process but there may be some circumstances where your local Leica dealer will need to assist you with this process.

2.13 New waylines via the mojo3D while guiding to old waylines

- The new mojo3D guidance patterns are revolutionary, diverse and dynamic. With the new mojoRTK software you can take advantage of these new guidance patterns such as Ultimate Curve. No matter what your field configuration, obstacles or requirements, Ultimate Curve will steer you in the right direction. The mojoRTK software will allow you to take advantage of these new guidance patterns by guiding to your previous waylines.

  Ultimate Curve guidance provides guidance alongside any previously recorded coverage. This means guidance can be provided around practically any irregular shaped field or back and forth along a complex contour line. As there is no need to pre-define a shape, Ultimate Curve guidance can be activated at anytime and guidance alongside pervious coverage will be provided.

  In Ultimate Curve guidance, working lines are parallel to the recorded coverage, and are created when the vehicle approaches a covered area with the guidance mode active. There is no requirement to pre-define Ultimate Curve guidance before it can be used.

2.14 Customisation of PVED configuration

- The ability to customise the PVED is now available in the Steering Wizard of the mojoRTK software

  If your equipment is fitted with a PVED, the customisation process is a simple five step one. Follow the on screen instructions and enter the requested requirements for:

  - Max left
  - Max right
  - Length of vehicle (two options)
  - Wheel Angle Sensor (WAS) input
  - External device

2.15 Steer kit configuration info has been moved from the Service Menu to the Dealer Menu

Service Menu Option

- To assist in the important diagnostic capabilities of the mojoRTK, the steer kit configuration has been moved from the Service Menu to the Dealer Menu. This has been done to remove customer confusion and concern as to what is required.

  This configuration provides a list of addresses and steering parameters related to the steer kit configuration and is a valuable tool to assist with the mojoRTK diagnostics.

2.16 Error check for SteerDirect SRK firmware version and configuration compatibility

Service Menu Option

- To ensure your SteerDirect SRK firmware is the latest compatible version for the mojoRTK, the new software will perform a series of tests to ensure the SRK firmware is compatible and you are getting the maximum performance achievable from the system.

3 Upgrading the Leica mojoRTK software

3.1 Upgrading Software from Virtual Wrench™

General information	A new version of software, if available, may be obtained by downloading from Virtual Wrench™
Caution	Do not turn off the Leica mojoRTK while performing the software upgrade.
Downloading software, step-by-step	1. Start the mojoRTK console 2. Wait until the mojoRTK console has reached the main screen 3. Press OK to enter the main menu 4. Scroll down to Service and press OK 5. Scroll down to Software and press OK 6. Scroll to Check for updates and press OK 7. The mojoRTK will connect to Virtual Wrench and check if an upgrade is available 8. The console will indicate if an upgrade was found 9. If an upgrade was found the updates menu item will change to Download new software 10. Select Download new software and press OK 11. A confirmation message will be displayed 12. Select the OK option and press OK 13. Once the downloaded is complete, a confirmation to install the software will be displayed 14. After confirming that you wish to install the software the upgrade process will begin 15. Once the upgrade has completed the system will restart

3.2 Upgrading Software via USB Flash Drive

General information

A new version of software may be installed from a USB Flash Drive.

Visit www.virtualwrench.com to obtain the latest software download.

Caution

Do not turn off the Leica mojoRTK, or remove the USB Flash Drive, while performing the software upgrade.

Upgrading software with a USB Flash Drive, step-by-step

1. Format the USB stick which you will use in performing the upgrade
2. Copy the latest software (see Obtaining Software) to the top level directory of the USB stick
3. Insert the USB stick
4. Start the mojoRTK console
5. Wait until the mojoRTK console has reached the main screen
6. Press OK to enter the main menu
7. Scroll down to Service and press OK
8. Scroll down to Software and press OK
9. If there is no menu called Upgrade via USB, present then:
   a) The USB stick may not be recognised by the console
   b) The USB stick may be corrupted
   c) The file may not be named correctly or may be in the wrong location

10. If the menu item is present then select it and press OK
    a) If there are multiple versions of firmware on the USB stick then you will be asked to select which version to install
11. A confirmation to begin the upgrade will be displayed
12. Confirm to install the software and the upgrade process will begin
13. Once the upgrade has completed the system will restart

3.3 Additional Languages supported in the mojoRTK console

By default the languages supported on the mojoRTK console are:

English – Australian

English - UK

English – USA

There are additional languages which can be loaded at point of purchase or by your local dealer. These include:

Brazilian (Portuguese)

Danish

French

German

Italian

Russian

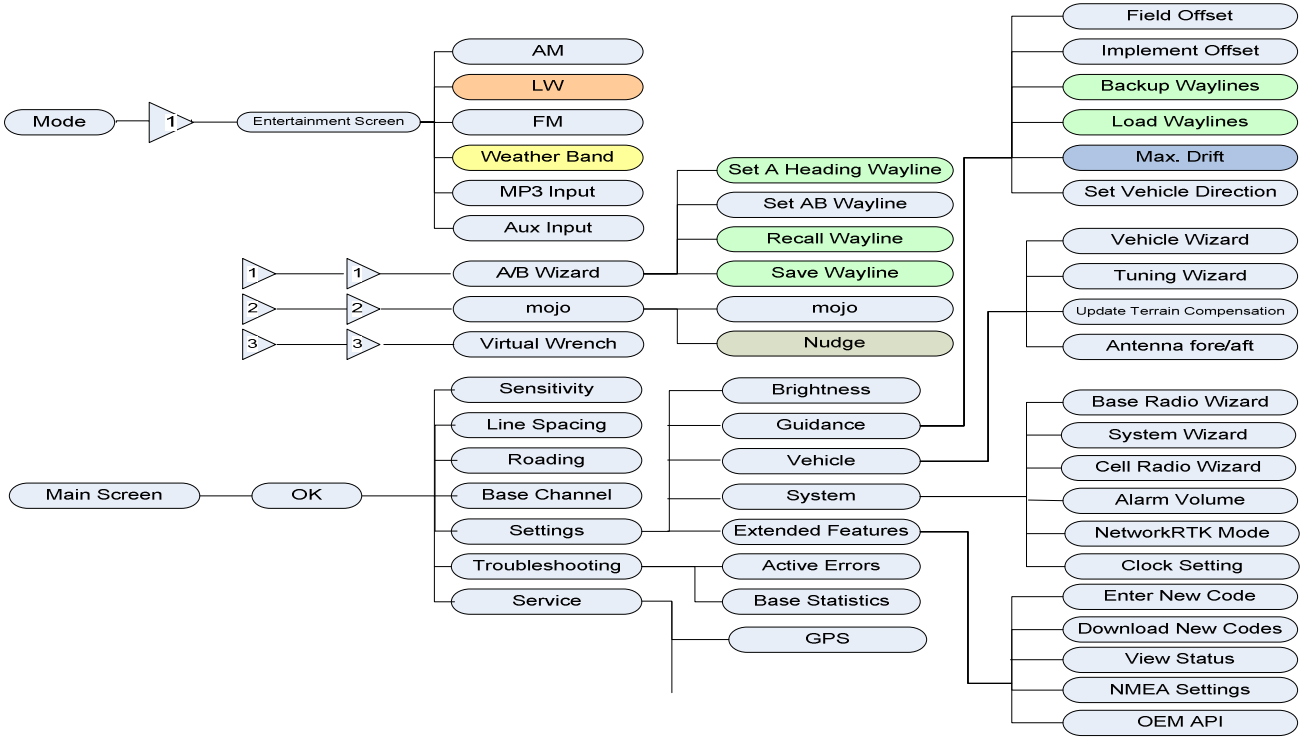
Spanish

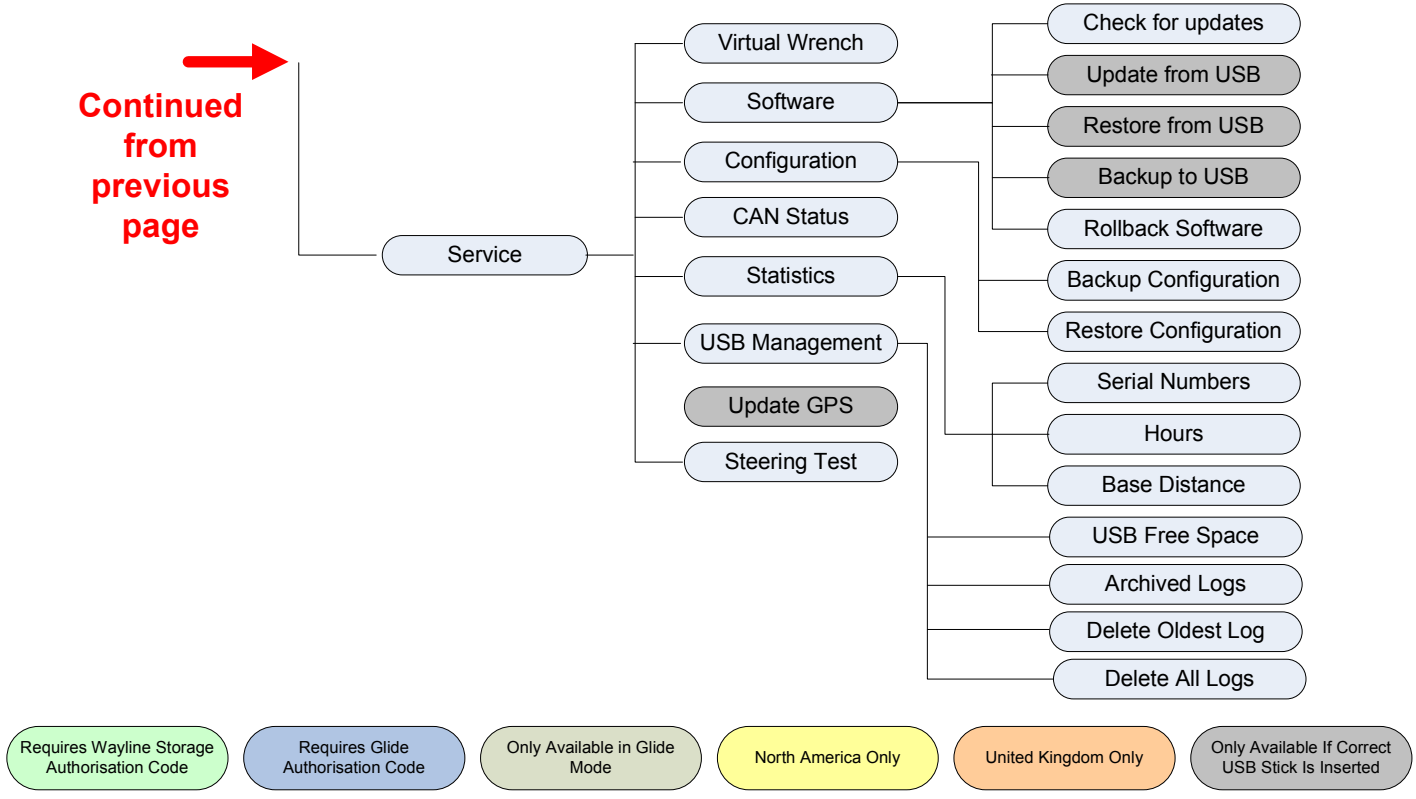
Dutch

Finnish

Swedish

3.4 mojoRTK console Menu Flow

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Service
Virtual Wrench
Software
Configuration
CAN Status
Statistics
USB Management
Update GPS
Steering Test
Check for updates
Update from USB
Restore from USB
Backup to USB
Rollback Software
Backup Configuration
Restore Configuration
Serial Numbers
Hours
Base Distance
USB Free Space
Archived Logs
Delete Oldest Log
Delete All Logs
Requires Wayline Storage Authorisation Code
Requires Glide Authorisation Code
Only Available in Glide Mode
North America Only
United Kingdom Only
Only Available If Correct USB Stick Is Inserted

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